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Verlauf der hinteren Wurzelfasern im Rückenmarke; Aufbau und Degeneration der im hinteren Theile des Rückenmarkes gelegenen, weissen Substanz (bei Tabes). A. TAKÁCS. (Original in Hungarian.) Abstracted in Centralbl. f. Physiol. No. 9, 1887.

The main anatomical results of this investigation are stated as follows: 1. One portion of the posterior root fibres enters the gray posterior cornu, and the other portion the white matter about the posterior cornu. 2. Fibres which enter the posterior cornu pass through the substantia gelatinosa and may be followed to the cells in the column of Clarke. 3. The portion running to the white matter enters the column of Burdach and the posterior part of the principal tract in the lateral column, then bends cephalad and disappears in the posterior cornua of the next three roots. 4. A portion of the fibres which come from the cells of the column of Clarke pass divergently into the column of Burdach and later go to form the column of Goll. 5. The second part of the fibres coming from the cells of the column of Clarke passes outside of the gray matter through the dorsal portion of the principal tract of the lateral column, then turning dorsad and cephalad forms the direct lateral cerebellar tract. 6. The direct lateral cerebellar tract and the columns of Goll are thus formed from equivalent groups of fibres, *i. e.* fibres which have passed through cells in the posterior cornua. These fibres pass cephalad in the cord without interruption, and their number of course increases. 7. The columns of Burdach and the dorsal portion of the principal tract of the lateral column are also mainly composed of posterior root fibres which, however, after a short course, as stated above, enter the gray matter of the posterior cornua. The author further describes association fibres between different levels of the posterior cornua.

Die histologischen Veränderung in den peripherischen Nerven, den Spinalganglien und dem Rückenmarke in Folge von Amputation. E. A. HOMEN. Neurolog. Centralbl. No. 3, 1888.

The author worked on some thirty dogs, from a week old to those adult, and amputated the limbs, usually the hind leg, at the hip or knee. The animals were examined from one day to three and a half years after the operation. The methods used for the histological investigation were those generally employed. In all cases the main change was found in the posterior cornua and the posterior columns of the cord. In those cases involving the lumbar region there was also a slight decrease in the number of cells in the columns of Clarke. The principal change was effected within the first six months, and the first recognizable difference occurred in the youngest and most easily influenced animals at the end of about a week. The operated side then seemed a trifle smaller than the normal. The change took place exclusively in the sensory nerves, but only a portion were involved, and consisted, in part at least, in the shrinking of both medullary sheath and axis cylinder. The spinal ganglia on the operated side were slightly atrophic. In the anterior cornua it was the postero-lateral group of cells which was most affected, and the author looks on them as sensory. Why only a part of the sensory nerves should be affected is not clear. [One value of such an investigation is the light which it throws on the degenerative change, the atrophy which occurs in this case being something quite different from Wallerian degeneration.]

The Cells of Clarke's Column. F. W. MOTT. The Brit. Med. Jour., 1887, Dec. 3, p. 1218.

A demonstration of these cells was made by the author from the cords of the dog, monkey, and man. The cells were bipolar or vesicular, and the long axis coincided with that of the cord. Axis cylinder and processes large. Caudad the cells were connected with the postero-lateral column, while cephalad and laterad they could be seen to be connected with the direct cerebellar tract. The results of degeneration in this region were also demonstrated.

Vergleichend-entwicklungsgeschichtliche Studien im Bereich der Gehirn-anatomie. 1. Ueber die Verbindung der sensibeln Nerven mit dem Zwischenhirn. L. EDINGER. Anatomischer Anzeiger, II, 6.

The author studied blindworms about twenty days old by Flechsig's method, and found that the nuclei of the sensory cranial nerves (trigeminus, glossopharyngeus, vagus, acusticus) have, just like the nuclei of the posterior columns, a connection with crossed centres that lie cephalad of them, by means of fibres. The fibres from the nuclei, after crossing the middle line, unite laterad of the posterior longitudinal bundle and pass to the inter-brain in the lemniscus. The relations of this sensory tract are similar in man.

Le système nerveux grand sympathique de l'Ammocoetes (Petromyzon Planeri). CH. JULIN. Anatomischer Anzeiger, II, 7, 1887.

The dorsal and ventral roots arise from the cord in *Petromyzon* in such a way that they are not mixed, but each nerve has a separate distribution. The dorsal roots have each a spinal ganglion, and both dorsal and ventral roots give rise to a dorsal and ventral branch. In the alimentary tract, and in the auricle of the heart, groups of nerve cells were known to exist. This represents the main bits of information possessed previous to this investigation by Julin. He has found something corresponding to a sympathetic system, which is described as follows: Between the cardinal veins and the aorta lie groups of ganglion cells which exactly correspond in position and number to the individual spinal nerves and are connected, one ganglion to the ventral branch of each nerve. Fibres connecting these ganglia with one another have not been found. The segmental ganglia have, however, fibres which connect them with a deeper series of non-segmental ones that are connected with the heart, alimentary tract, kidneys, and the reproductive organs.

The sympathetic in *Petromyzon* has therefore two peculiarities. The ganglia forming it are not united by a sympathetic nerve, and since there is a ganglion for each nerve root, and the dorsal and ventral nerve roots are separated, the motor and sensory elements in the sympathetic may be considered as also separate.

Sur les nerfs craniens d'un embryon humain de trente-deux jours. PHISALIX. Compt. rend. CIV, 4, p. 241.

In a human embryo of thirty-two days the author thinks he can make out the spinal type in certain cranial nerves. The trigeminus has besides the motor portion, which is applied to the ganglion Gasseri, another motor portion which passes through the ganglion. The trochlearis appears mixed, receiving sensory fibres from the corpora quadrigemina.